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PENSOFT

# Semiaquatic bugs (Insecta, Hemiptera, Heteroptera, Gerromorpha) from Parque Natural Municipal das Andorinhas, Ouro Preto, Minas Gerais state, Brazil

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**Abstract.** We present a survey of the semiaquatic bugs (Insecta, Hemiptera, Heteroptera, Gerromorpha) from Parque Natural Municipal das Andorinhas and adjacent areas, Ouro Preto, Minas Gerais state, southeastern Brazil. Thirteen species are recorded from the locality based on regular collection events, namely *Brachymetra albinervus* (Amyot & Serville, 1843); *Cylindrostethus palmaris* Drake & Harris, 1934; *Halobatopsis delectus* Drake & Harris, 1941; *Ha. platensis* (Berg, 1879); *Metrobates plaumanni genikos* Nieser, 1993; *Neogerris kontos* Nieser, 1994 (Gerridae); *Hydrometra fruhstorferi* Hungerford & Evans, 1934 (Hydrometridae); *Platyvelia brachialis* (Stål, 1860); *Rhagovelia macta* Drake & Carvalho, 1955; *R. robusta* Gould, 1931; *R. sbolos* Nieser & Melo, 1997; *R. triangula* Drake, 1953; and *R. trianguloides* Nieser & Melo, 1997 (Veliidae).

**Keywords.** Aquatic insects, faunistics, Neotropical Region, South America

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## Introduction

Heteroptera (Insecta, Hemiptera), or true bugs, is a group of insects with worldwide distribution, which is more diverse on the tropics (Mazzucconi et al. 2009a). It comprises seven infraorders, of which Gerromorpha and Nepomorpha are intimately related to water bodies of all continents, except for Antarctica (Nieser and Melo 1997; Polhemus and Polhemus 2008). Gerromorpha contains eight families and over 60 genera of semiaquatic, predatory bugs that play an important role on aquatic ecosystems and can be used as indicators of biological quality (Moreira 2015). Here, we report a survey of the semiaquatic bugs from Parque Natural Municipal das Andorinhas (PNMA) and adjacent areas, Ouro Preto, Minas Gerais state (MG), southeastern Brazil, an underexplored locality, including the first record from MG for one species.

## Study Area

Parque Natural Municipal das Andorinhas is part of Cachoeira das Andorinhas Environmental Protection Area, located in the city of Ouro Preto, MG, southeastern Brazil. Inserted in a context of conservation importance, PNMA protects preserved fragments of Atlantic

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Forest (montane seasonal semideciduous forest) and rupestrian fields, as well as a rich diversity of fauna and flora. Most of the PNMA vegetation has been subject to anthropogenic disturbance, with the forest patches predominantly formed by low trees with small-diameter trunks (IEFMG 2009; Ávila-Júnior et al. 2020). Nonetheless, we recently described a new species of *Microvelia* Westwood, 1834 (Gerromorpha, Gerridae) from this area (Magalhães et al. 2021), showing the importance of PNMA for the conservation of the local aquatic fauna.

## Methods

Fieldwork was carried out monthly in 2018 and 2019 in four localities within PNMA and three adjacent to it (Figs. 1–8), by active search with the aid of aquatic nets. Geographic coordinates of the sampling stations were obtained with a GPS receiver. Specimens were fixed and preserved in 80% ethanol, and subsequently deposited in the the Laboratório de Entomologia Ecológica, Departamento de Biodiversidade, Evolução e Meio Ambiente, Universidade Federal de Ouro Preto, Ouro Preto, Brazil (LEE). Photographs were obtained using a Leica M205 C stereomicroscope coupled with a Leica DMC2900 digital camera, and captured using the Leica LAS imaging system.

## Results

Family Gerridae
Subfamily Charmatometrinae
Genus *Brachymetra* Mayr, 1865

***Brachymetra albinervus* (Amyot & Serville, 1843)**
Figure 9

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Bicicleta Station; –20.3466°, –043.4950°; 25.V.2018; G.L.V. Machado leg.; 2 ♂, apterous, LEE-GE0003 • same data except Folhinha Station; –20.3502°, –043.4900°; 15.VI.2018; 2 ♂, 3 ♀, apterous, LEE-GE0004 • same data except 31.VIII.2018; 6 ♂, apterous, LEE-GE0005 • same data except 05.XII.2018; 3 ♂, apterous, LEE-GE0006 • same data except 21.XII.2018; 1 ♀, apterous, LEE-GE0007 • same data except Jesus Station; –20.3622°, –043.4886°; 06.IV.2018; 1 ♀, apterous, LEE-GE0008 • same data except Macaco Station; –20.3364°, –043.5094°; 18.V.2018; 3 ♂, 5 ♀, apterous, LEE-GE0009 • same data except 12.VI.2018; 1 ♂, 2 ♀, apterous, LEE-GE0010 • same data except 17.VII.2018; 3 ♂, 2 ♀, apterous, LEE-GE0011 • same data except 10.IX.2018; 1 ♀, apterous; LEE-GE0012 • same data except 27.IX.2018; 1 ♂, 1 ♀, apterous, LEE-GE0013 • same data except 26.XI.2018; 3 ♂, 1

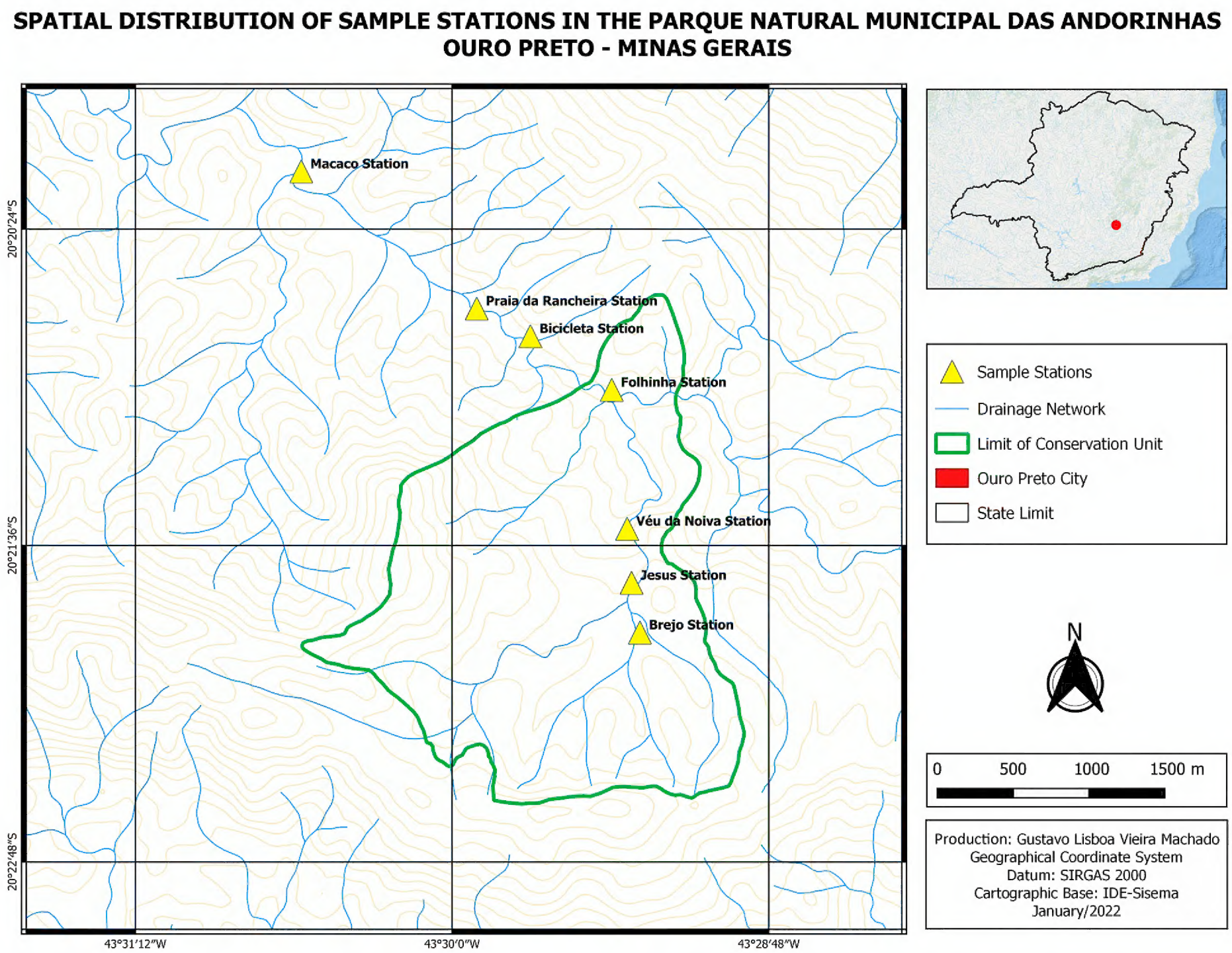



**Figure 1.** Map with the sampling sites within and adjacent to Parque Natural Municipal das Andorinhas, Ouro Preto, Minas Gerais state, Brazil.

**Figures 2–8.** Photographs of collecting localities within and adjacent to Parque Natural Municipal das Andorinhas, Ouro Preto, Minas Gerais State, Brazil. **2.** Bicicleta Station (–20.3466°, –043.4950°). **3.** Brejo Station (–20.3655°, –043.4881°). **4.** Folhinha Station (–20.3502°, –043.4900°). **5.** Jesus Station (-20.3622°, –043.4886°). **6.** Macaco Station (–20.3364°, –043.5094°). **7.** Praia da Rancheira Station (–20.3450°, –043.4983°). 8. Véu da Noiva Station (–20.3588°, –043.4888°).

♀, apterous, LEE-GE0014 • same data except 10.I.2019; 2 ♂, apterous, LEE-GE0015 • same data except Praia da Rancheira Station; –20.3450°, –043.4983°; 18.V.2018; 1 ♂, apterous, LEE-GE0016 • same data except 10.XII.2018; 1 ♂, apterous, LEE-GE0017 • same data except 11.I.2019; 1 ♂, apterous, LEE-GE0018 • same data

except Véu da Noiva Station; –20.3588°, –043.4888°; 16.III.2018; 15 ♂, apterous, LEE-GE0019 • same data except 11.V.2018; 5 ♂, apterous, LEE-GE0020 • same data except 08.VI.2018; 2 ♂, apterous, LEE-GE0021 • same data except 03.VII.2018; 4 ♂, 1 ♀, apterous, LEE-GE0022 • same data except 03.VIII.2018; 3 ♂, apterous, LEE-GE0023 • same data except 19.X.2018; 1 ♂, apterous, LEE-GE0024 • same data except 17.I.2019; 1 ♀, apterous, LEE-GE0025 • same data except 15.II.2019; 1 ♂, apterous, LEE-GE0026 • same data except 14.XII.2019; 1 ♂, 1 ♀, apterous, LEE-GE0027.

**Identification.** This species is 4.25–6.70 mm long and yellowish to reddish brown. Diagnostic features are as follows: pronotum of apterous form without dark median line, not reaching abdominal mediotergite I; acetabula covered by silvery setae dorsally; fore femur slightly arched, with conical black setae ventrally, at least 1.5 times wider than middle femur; male abdominal mediotergite VII trapezoid; and male abdominal segment VIII in natural position with half of its length exposed (Cordeiro 2017).

Subfamily Cylindrostethinae
Genus *Cylindrostethus* Mayr, 1865

***Cylindrostethus palmaris* Drake & Harris, 1934**

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Macaco Station; –20.3364°, –043.5094°; 18.V.2018; G.L.V. Machado leg.; 1 ♂, apterous, LEE-GE0028.

**Identification.** This species presents an elongated, robust body, at most 20 mm long; mesonotum of apterous form with a pair of longitudinal black stripes, each as wide as median yellow stripe; fore tibia black; posterior margin of male abdominal sternum VII rounded; basolateral processes of male proctiger subequal in length and width; and apex of female abdominal tergum VIII acute (Floriano et al. 2016).

Subfamily Trepobatinae
Genus *Halobatopsis* Bianchi, 1896

***Halobatopsis delectus* Drake & Harris, 1941**

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Folhinha Station; –20.3502°, –043.4900°; 31.VIII.2018; G.L.V. Machado leg.; 2 ♂, apterous; LEE-GE0029 • same data except Jesus Station; –20.3622°, –043.4886°; 27.IV.2018; 4 ♂, 4 ♀, apterous, LEE-GE0030 • same data except 05.XI.2018; 1 ♂, macropterous, 2 ♀, apterous, LEE-GE0031 • same data except 17.I.2019; 1 ♂, apterous, LEE-GE0032 • same data except Praia da Rancheira Station; –20.3450°, –043.4983°; 10.IX.2018; 3 ♂, 1 ♀, apterous, LEE-GE0033.

**Identification.** Both representatives of the genus *Halobatopsis* present in the study area display the mesonotum with longitudinal black stripes. *Halobatopsis delectus* can be distinguished by the fore femur with a tubercle at basal fourth; male abdominal segment VIII with a dark brown to blackish ventral spine; and female abdominal laterotergites reflected over the mediotergites (Nieser and Melo 1999).

***Halobatopsis platensis* (Berg, 1879)**
Figure 10

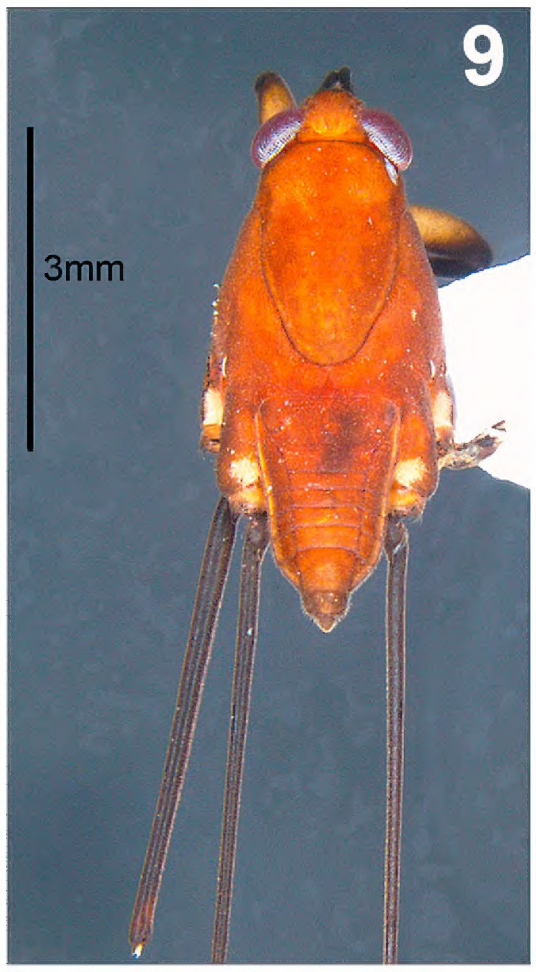
**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Bicicleta Station; –20.3466°, –043.4950°; 23.III.2018; G.L.V. Machado leg.; 9 ♂, 6 ♀, apterous, LEE-GE0034 • same data except 11.V.2018; 1 ♂, 2 ♀, apterous, LEE-GE0035 • same data except 25.V.2018; 1 ♂, 9 ♀, apterous, LEE-GE0036 • same data except 03.VII.2018; 2 ♂, 5 ♀, apterous, LEE-GE0037 • same data except 27.VIII.2018; 2 ♂, 3 ♀, apterous, LEE-GE0038 • same data except 05.XI.2018; 2 ♂, 12 ♀, apterous, LEE-GE0039 • same data except 14.XII.2018; 2 ♂, 5 ♀, apterous, LEE-GE0040 • same data except 12.II.2019; 5 ♂, 6 ♀, apterous, LEE-GE0041 • same data except Brejo Station, -20.3655°, –043.4881°; 27.IV.2018; 2 ♂, 3 ♀, apterous, LEE-GE0042 • same data except 20.VII.2018; 3 ♂, apterous, LEE-GE0043 • same data except Folhinha Station; –20.3502°, –043.4900°; 20.VII.2018; 1 ♀, apterous, LEE-GE0044 • same data except 05.XII.2018; 1 ♂, apterous, LEE-GE0045 • same data except 24.VIII.2019; 7 ♂, 3 ♀, apterous, LEE-GE0046 • same data except Jesus Station; –20.3622°, –043.4886°; 06.IV.2018; 3 ♂, 5 ♀, apterous, LEE-GE0047 • same data except 27.IV.2018; 1 ♂, apterous, LEE-GE0048 • same data except 15.VI.2018; 1 ♂, apterous, LEE-GE0049 • same data except 27.VII.2018; 4 ♂, apterous, LEE-GE0050 • same data except 05.XI.2018; 14 ♂, 6 ♀, apterous, LEE-GE0051 • same data except 12.XI.2018; 2 ♂, apterous, LEE-GE0052 • same data except Macaco Station; –20.3364°, –043.5094°; 18.V.2018; 1 ♂, apterous, LEE-GE0053 • same data except Praia da Rancheira Station; –20.3450°, –043.4983°; 13.IV.2018; 15 ♂, 8 ♀, apterous, LEE-GE0054 • same data except 08.VI.2018; 1 ♂, apterous, LEE-GE0055 • same data except Véu da Noiva Station, -20.3588°, –043.4888°, 03.VIII.2018; 2 ♂, apterous, LEE-GE0056 • same data except 14.XII.2018; 1 ♂, apterous, LEE-GE0057 • same data except 17.I.2019; 1 ♀, apterous, LEE-GE0058 • same data except 13.II.2019; 1 ♀, apterous, LEE-GE0059.

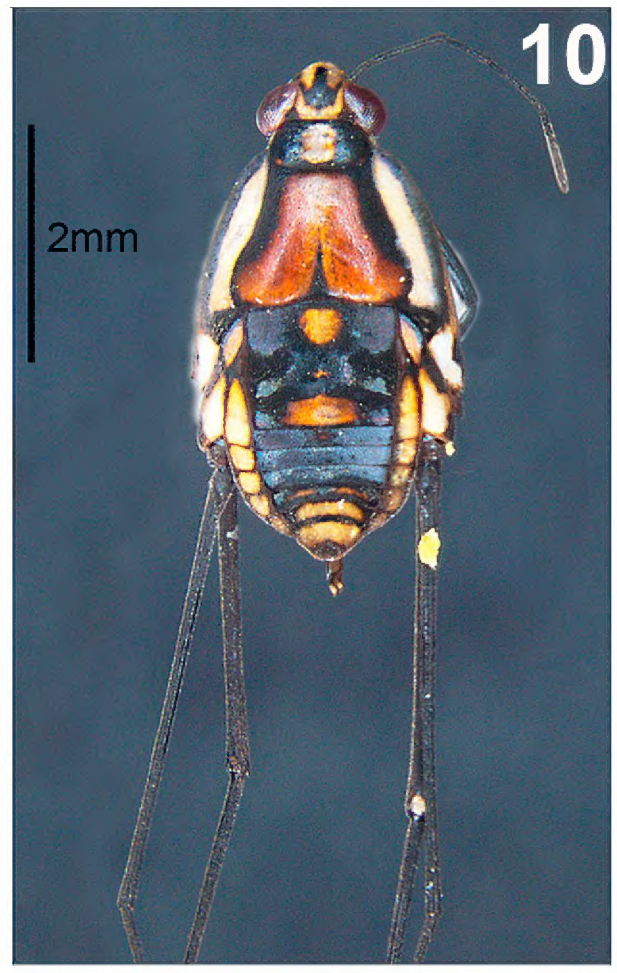
**Identification.** *Halobatopsis platensis* can be distinguished from *H. delectus* by the males without a ventral spine on abdominal segment VIII, and the females with abdominal laterotergites horizontal to slightly slanting dorsally (Nieser and Melo 1999).

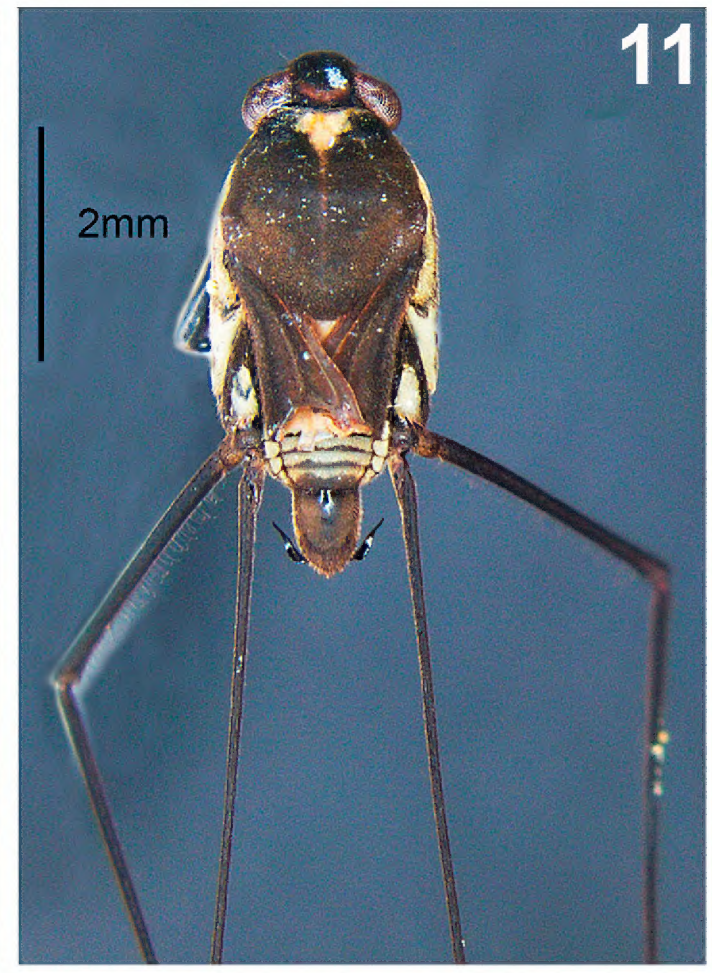
Genus *Metrobates* Uhler, 1871

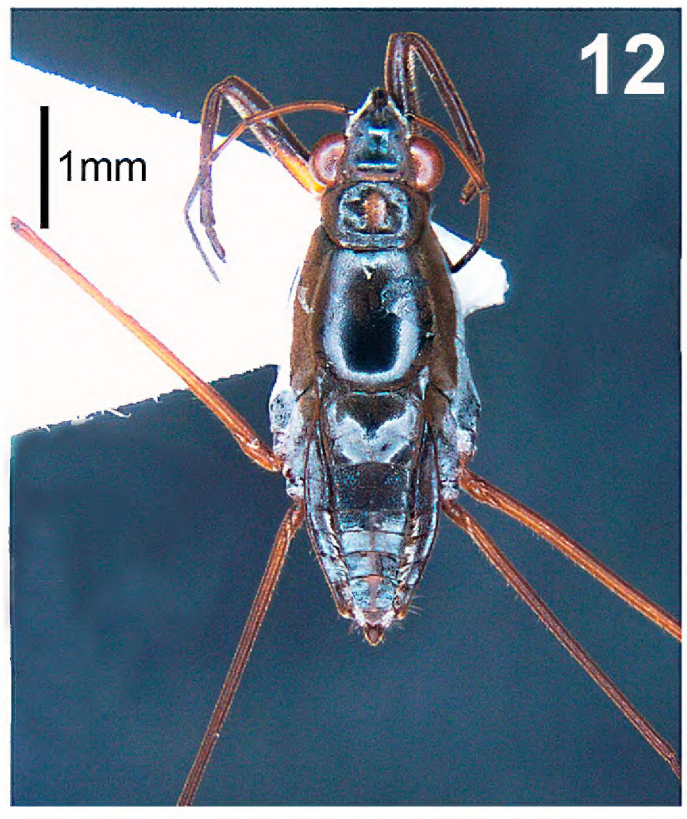
***Metrobates plaumanni genikos* Nieser, 1993**
Figure 11

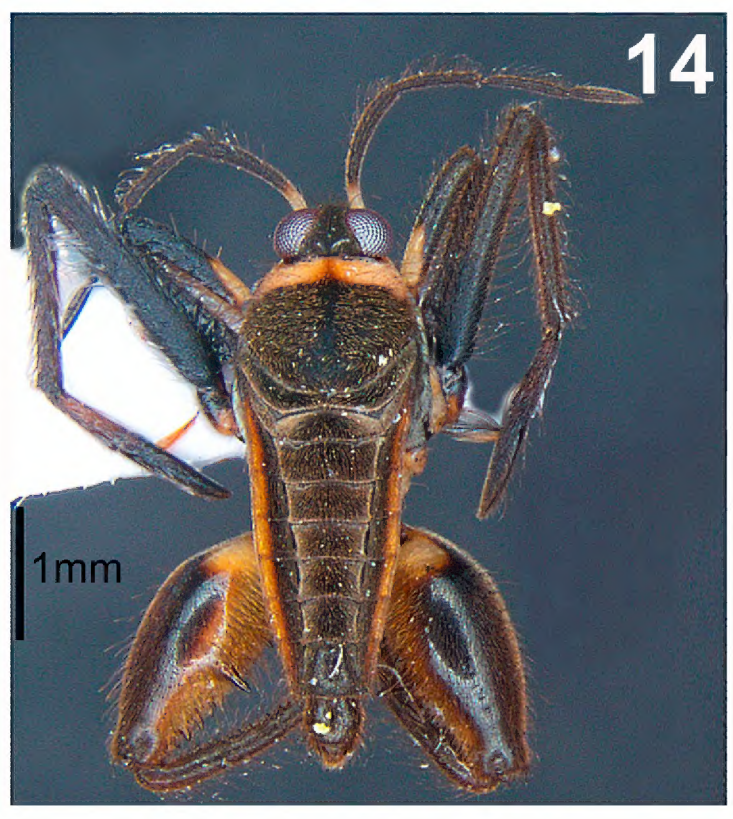
**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Folhinha Station; –20.3502°, –043.4900°; 05.XII.2018; G.L.V. Machado leg.;1 ♂, macropterous, LEE-GE0060 • same data except Praia da Rancheira Station; –20.3450°,





**Figures 9–15.** Collected specimens, habitus. **9.** *Brachymetra albinervus*, apterous male. **10.** *Halobatopsis platensis*, apterous female. **11.** *Metrobates plaumanni genikos*, macropterous male. **12.** *Neogerris kontos*, apterous female. **13.** *Rhagovelia macta*, apterous male. **14.** *Rhagovelia robusta*, apterous male. **15.** *Rhagovelia triangula*, apterous female.

–043.4983°; 10.XII.2018; 2 ♀, apterous, LEE-GE0061.

**Identification.** This species is diagnosed by the following features: antennomere I longer than II + III; antennomere IV shorter than III; mesoacetabulum without a ventral spine; fore femur without a ventral spine; and paramere not distinctly widened after middle curve (Nieser 1993).

Subfamily Gerrinae
Genus *Neogerris* Matsumura, 1913

***Neogerris kontos* Nieser, 1994**
Figure 12

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Brejo Station; –20.3655°, –043.4881°; 27.IV.2018; G.L.V. Machado leg.; 1 ♂, 1 ♀, apterous, LEE-GE0062.

**Identification.** *Neogerris kontos* can be distinguished from American congeners based on the following characteristics: body 3.90–5.20 mm long; length of antennomere I subequeal to width of interocular space + one eye; apterous pronotum broader than long, with posterior lobe virtually absent; and male abdominal segment VIII without tufts of setae laterally (Nieser 1994).

Family Hydrometridae
Subfamily Hydrometrinae
Genus *Hydrometra* Latreille, 1797

***Hydrometra fruhstorferi* Hungerford & Evans, 1934**

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Folhinha Station; –20.3502°, –043.4900°; 15.VI.2018; G.L.V. Machado leg.; 1 ♂, apterous, LEE-GE0001 • same data except Macaco Station; –20.3364°, –043.5094°; 18.V.2018; 1 ♂, apterous, LEE-GE0002.

**Identification.** This species can be distinguished by its elongated body; clypeus broad, subquadrate, with the anterior margin obtusely pointed, not excavated; pro- and mesoacetabula with circular punctures; and male abdominal sternum VI with a pair of mammilose projections joined by a wide transverse ridge (Hungerford and Evans 1934; Moreira and Barbosa 2013).

Family Veliidae
Subfamily Rhagoveliinae
Genus *Rhagovelia* Mayr, 1865

***Rhagovelia macta* Drake & Carvalho, 1955**
Figure 13

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Macaco Station; –20.3364°, –043.5094°; 17.VII.2018; G.L.V. Machado leg.; 2 ♂, 4 ♀, apterous, LEE-GE0065.

**Identification.** *Rhagovelia macta* belongs to the *itatiaiana* group of species, based on the body blackish with distinctively contrasting yellow or orange markings on pronotum and abdominal laterotergites; the pronotum of the apterous form distinctly shorter than three times the length of the exposed mesonotum, but longer than the dorsal length of the eye, with the posterior margin convex; the ventral abdominal sutures simple and unmodified; and the apterous female without a dorsal, median, abdominal carina. Within this group, it is diagnosed by the following features: male abdominal sternum VII with a median tuft of setae anteriorly; mesonotum orange at least centrally; and male hind femur greatly incrassate, with two large spines separated by about eight smaller ones (Polhemus 1997).

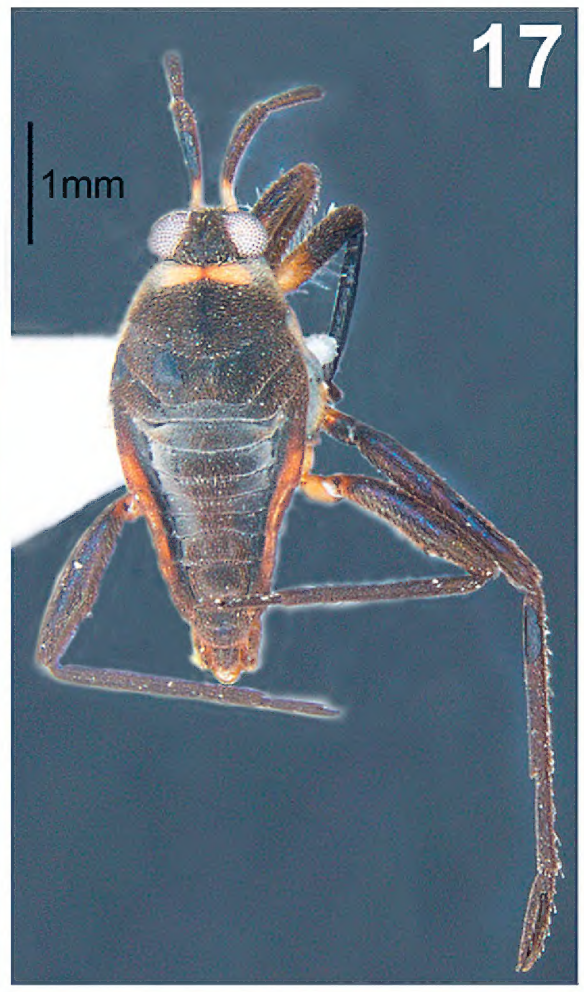
***Rhagovelia robusta* Gould, 1931**
Figure 14

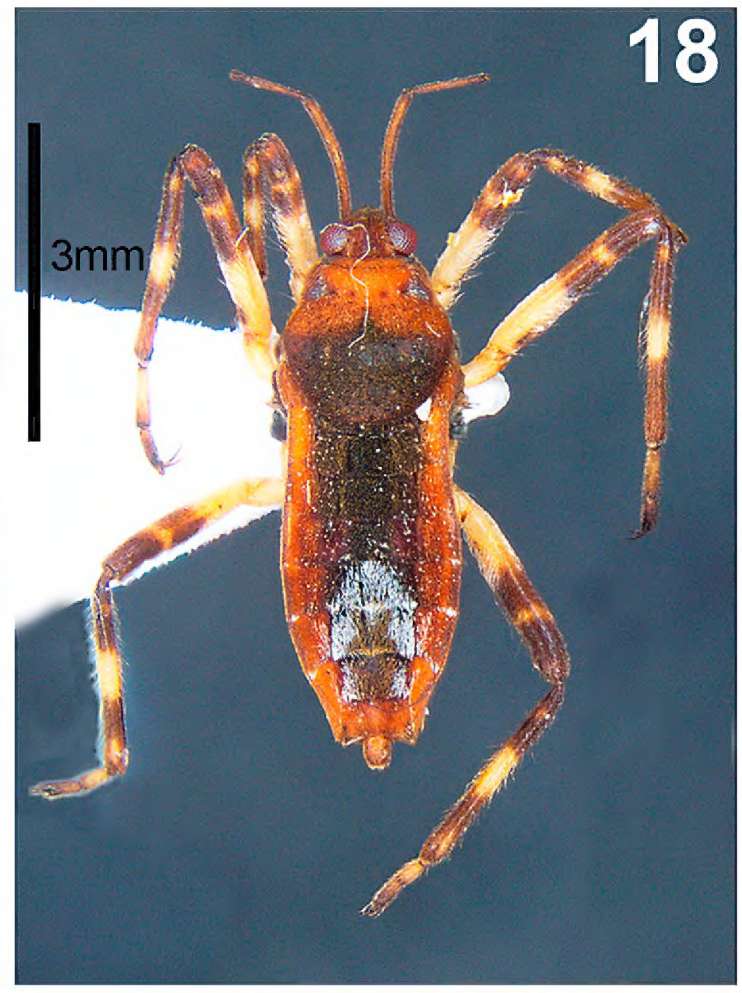
**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Bicicleta Station; –20.3466°, –043.4950°; 11.V.2018; G.L.V. Machado leg.; 2 ♀, apterous, LEE-GE0066 • same data except 25.V.2018; 5 ♀, macropterous, LEE-GE0067 • same data except 30.XI.2018; 8 ♂, 10 ♀, apterous, LEE-GE0068 • same data except Folhinha Station; –20.3502°, –043.4900°; 20.VII.2018; 1 ♀, apterous, LEE-GE0069 • same data except 20.XII.2018; 2 ♂, 1 ♀, apterous, LEE-GE0070.

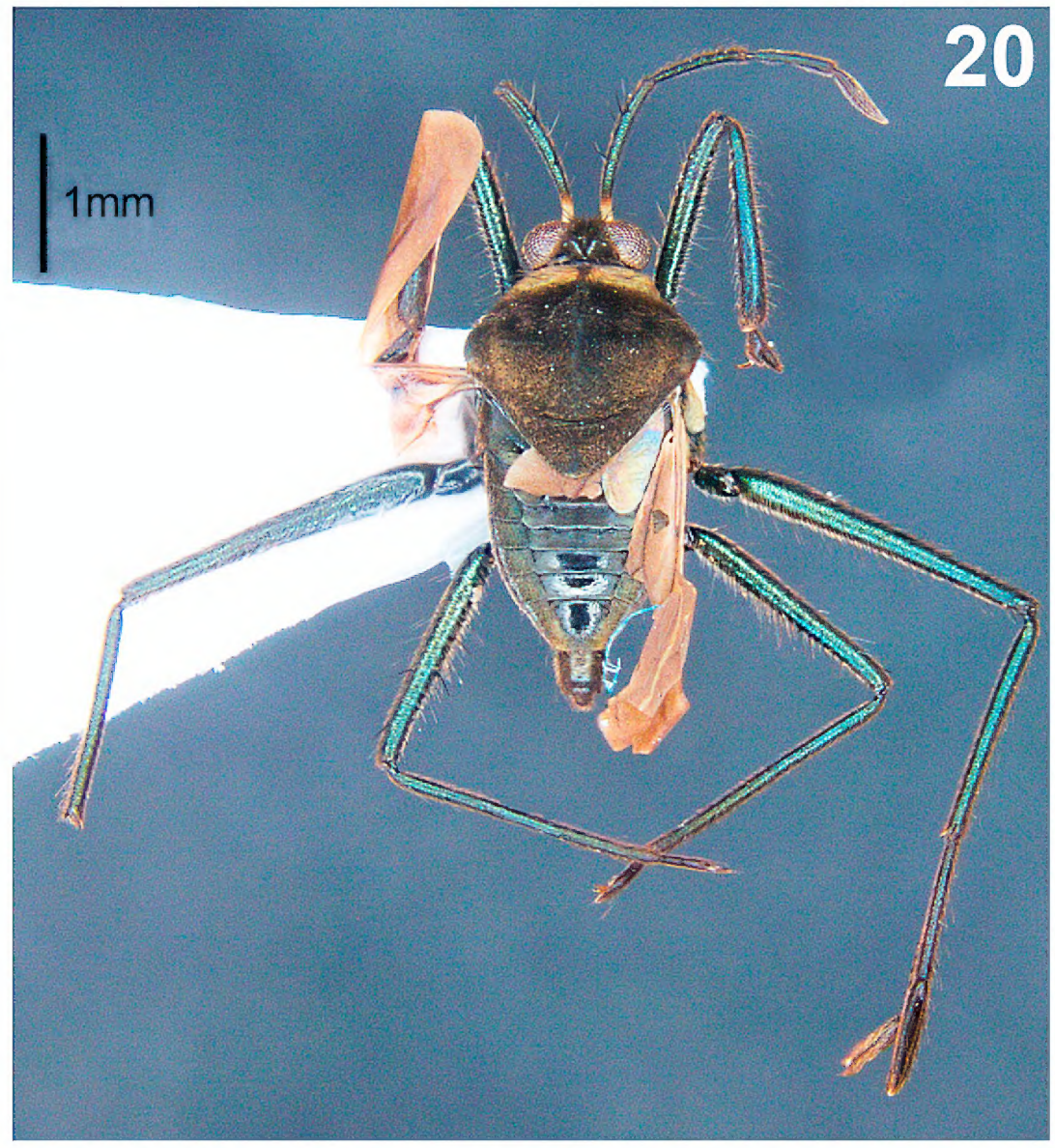
**Identification.** This species belongs to the *robusta* group of species, based on the pronotum of the apterous form longer than three times the exposed portion of the mesonotum; the hind tibia with the apical spur straight, when present; the venter of the body not densely covered by black denticles; the posterolateral margins of male abdominal segment VII without large black denticles; the abdomen of the apterous female without a median carina dorsally; and the pronotum of the macropterous female without an elevated posterior projection (Polhemus 1997; Moreira et al. 2012). Among the species of this group, it is diagnosed by the following characteristics of the apterous male: jugum and adjacent portion of proepisternum with small black denticles; pronotum mostly dark brown to black, strongly contrasting with an yellowish-brown or orange-brown mark on anterior lobe; middle trochanter dark-brown to black; hind trochanter with small subequal spines; hind femur with 3 or 4 irregular rows of spines, with a large spine near its middle dorsally displaced from others; hind tibia with several subequal spines throughout length, a large preapical spine, and an apical spur; and sides of abdominal segment VII without patches of small black denticles (Magalhães et al. 2016).

***Rhagovelia sbolos* Nieser & Melo, 1997**
Figures 19–21

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Brejo Station; –20.3655°, –043.4881°; 12.XI.2018; G.L.V. Machado leg.; 1 ♂, apterous, LEE-GE0071 • same data except 14.IX.2018; 2 ♂, 2 ♀, apterous, LEE-GE0072 • same data except Folhinha Station; –20.3502°, –043.4900°; 11.V.2018; 1 ♂, macropterous, LEE-GE0073 • same





**Figures 16–21.** Collected specimens, habitus. **16–17.** *Rhagovelia trianguloides*. **16.** Apterous male. **17.** Apterous female. **18.** *Platyvelia brachialis*, micropterous female. **19–21.** *Rhagovelia sbolos*. **19.** Apterous male. **20.** Macropterous male. **21.** Forewing.

data except 05.X.2018; 1 ♂, 4 ♀, apterous, LEE-GE0074 • same data except 20.VII.2018; 1 ♀, apterous, LEE-GE0075 • same data except 05.XII.2018; 1 ♂, apterous; LEE-GE0076 • same data escept Jesus Station; –20.3502°, –043.4900°; 15.VI.2018; 1 ♂, 2 ♀, apterous, LEE-GE0077 • same data except Macaco Station; –20.3364°, –043.5094°; 18.V.2018; 1 ♀, apterous, LEE-GE0078 • same data except 17.VIII.2018; 10 ♀, apterous, LEE-GE0079 • same data except 27.IX.2018; 2 ♀, apterous, LEE-GE0080 • same data except 26.XI.2018; 5 ♂, apterous, LEE-GE0081 • same data except 26.XI.2018; 1 ♂, apterous, LEE-GE0082 • same data except 05.II.2019; 13 ♂, 3 ♀, apterous, LEE-GE0083 • same data except 20.IV.2018; 5 ♂, 5 ♀, apterous, LEE-GE0084 • same data except 12.VI.2018; 2 ♂, 7 ♀, apterous, LEE-GE0085 • same data except 10.I.2019; 1 ♀, apterous, LEE-GE0086 • same data except Praia da Rancheira Station; –20.3450°, –043.4983°; 10.IX.2018; 3 ♂, 1 ♀, apterous, LEE-GE0087 • same data except 13.II.2019; 2 ♀, apterous, LEE-GE0088 • same data except 18.V.2018; 1 ♂, 3 ♀, apterous, LEE-GE0089 • same data except 17.VII.2018; 3 ♂, 2 ♀, apterous, LEE-GE0090 • same data except 11.I.2019; 2 ♀, apterous, LEE-GE0091 • same data except 12.VI.2018; 4 ♂, apterous, LEE-GE0092 • same data except Véu da Noiva Station; –20.3588°, –043.4888°; 16.III.2018; 7 ♂, 4 ♀, apterous, LEE-GE0093 • same data except 11.V.2018; 1 ♂, apterous, LEE-GE0094 • same data except 17.I.2019; 1 ♀, apterous, LEE-GE0095 • same data except 15.II.2019; 1 ♂, apterous, LEE-GE0096 • same data except 15.II.2019; 3 ♂, 8 ♀, apterous, LEE-GE0097 • same data except 19.II.2019; 1 ♂, macropterous, LEE-GE0098 • same data except 19.II.2019; 2 ♂, 2 ♀, apterous, LEE-GE0099 • same data except 08.VI.2019; 2 ♂, 14 ♀, apterous, LEE-GE0100.

**Identification.** *Rhagovelia sbolos* belongs to the *angustipes* complex of species, based on the pronotum of the apterous form shorter than the dorsal length of the eye, with the posterior margin straight or slightly concave (Polhemus 1997). The apterous females of this species are readily distinguished by the complex modifications of the abdomen (Nieser and Polhemus 1999: 62, fig. 13). The males, in turn, can be identified by the margins of the acetabula dark; the fore and hind coxae and trochanters yellow to light-brown; the fore trochanter without a small, anteriorly directed spine; the middle coxa blackish; and the hind femur with one to three spines (Nieser and Polhemus 1999). *Rhagovelia sbolos* was provisionally assigned to the *bisignata* group by Padilla-Gil and Moreira (2013), because macropterous specimens were unknown at that time. Here, we found two macropterous males, which have four closed cells on the forewing (Fig. 21). Therefore, it is now possible to confirm the placement of this species in the *bisignata* group.

***Rhagovelia triangula* Drake, 1953**
Figure 15

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Brejo Station; –20.3655°, –043.4881°; 14.IX.2018; G.L.V. Machado leg.; 2 ♂, apterous, LEE-GE0101 • same data except Folhinha Station; –20.3502°, –043.4900°; 20.XII.2018; 4 ♂, 1 ♀, apterous, LEE-GE0102 • same data except 15.VI.2018; 5 ♂, 7 ♀, apterous, LEE-GE0103 • same data except 20.VII.2018; 3 ♂, apterous, LEE-GE0104 • same data except 05.X.2018; 2 ♀, macropterous, LEE-GE0105 • same data except 05.X.2018; 4 ♂, apterous, LEE-GE0106 • same data except Praia da Rancheira Station; –20.3450°, –043.4983°; 12.VI.2018; 1 ♂, 6 ♀, apterous, LEE-GE0107 • same data except 12.VI.2018; 22 ♂, apterous, LEE-GE0108 • same data except 17.VII.2018; 1 ♀, macropterous, LEE-GE0109 • same data except 27.IX.2018; 1 ♂, apterous, LEE-GE0110 • same data except 13.II.2019; 3 ♂, 4 ♀, apterous, LEE-GE0111 • same data except 13.IV.2019; 1 ♂, apterous, LEE-GE0112 • same data except Véu da Noiva Station; –20.3450°, –043.4983°; 16.III.2018; 1 ♂, apterous, LEE-GE0113.

**Identification.** *Rhagovelia triangula* belongs to the *lucida* group of species, which can be separated from the *itatiaiana* group by the body uniformly blackish except for a small orange spot medially on the pronotum, in addition to the male antennomere III dilated or at least thicker than II and IV in some species (Polhemus 1997). Within this group, this species is recognized by the male antennomere III not distinctly expanded, at most slightly thicker on apex than antennomere II, the male hind femur with a few short spines on proximal half that do not form a distinct row; and the abdomen of the apterous female strongly modified, with the margins of the laterotergites sinuously folded on the sides of mediotergites VI–VIII (Fig. 15; Moreira 2012).

***Rhagovelia trianguloides* Nieser & Melo, 1997**
Figure 16–17

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Folhinha Station; –20.3502°, –043.4900°; 20.VII.2018; G.L.V. Machado leg.; 2 ♂, 2 ♀, apterous, LEE-GE0114 • same data except Praia da Rancheira Station; –20.3450°, –043.4983°; 12.VI.2018; 10 ♂, apterous, LEE-GE0115.

**Identification.** Like *R. macta*, *R. trianguloides* belongs to the *itatiaiana* group of species (Polhemus 1997). This species can be immediately distinguished from the former by the male abdominal sternum VII without a median tuft of setae. Additionally, its body length is 3.30–3.60 mm; the male hind femur has an irregular row of spines at proximal ⅖; and the abdominal mediotergite I of the apterous female is depressed, while II–IV are elevated (Moreira 2012).

Subfamily Veliinae
Genus *Platyvelia* Polhemus & Polhemus, 1993

***Platyvelia brachialis* (Stål, 1860)**
Figure 18

**New records.** BRAZIL – Minas Gerais • Ouro Preto, Parque Natural Municipal das Andorinhas, Brejo

Station; –20.3655°, –043.4881°; 12.XI.2018; G.L.V. Machado leg.; 1 ♂, micropterous, LEE-GE0063 • same data except Jesus Station; –20.3622°, –043.4886°; 15.VI.2018; 1 ♂, 1 ♀, micropterous, LEE-GE0064.

**Identification.** This species belongs to the *brachialis* group of species, based on the male abdominal sternum VI without a median projection; the male abdominal sternum VII with the posterior margin concave; and the paramere not sculptured. It can be separated from similar congeners by the body length 4.50–5.10 mm; the anterior margin of the pronotum narrower than or subequal to the head width through the eyes, with the anterolateral corners not projected; and the angulate metanotal projections not exposed in micropterous or apterous specimens (Rodrigues et al. 2021a).

## Discussion

Among the species identified, *Hydrometra fruhstorferi* had been recorded from Espírito Santo state, Brazil (Hungerford and Evans 1934), to Misiones province, Argentina (Bachmann 1977). The record presented here is the first of this rarely collected species from MG. The remaining 12 species in our samples are new for Parque Natural Municipal das Andorinhas and adjacent areas but had already been collected in MG. *Brachymetra albinervus* is widely distributed from Guatemala (Drake and Harris 1942) southward to Paraguay (Drake and Harris 1930), including some of the Windward Islands of the Caribbean (Uhler 1893, 1894; de Kort-Gommers and Nieser 1969; Bass 2007, 2010), and Trinidad and Tobago (Drake and Harris 1942). In this work, we present the first record from Ouro Preto Municipality. In MG, it had been reported from Itacarambi (Monte and Bichuette 2020), Brumadinho (Vianna and Melo 2003), and Carmo do Rio Claro (Moreira et al. 2011).

*Cylindrostethus palmaris* is the most common and widespread species of the genus in the Neotropical Region, occurring from Trinidad and Tobago (Drake and Harris 1934) and eastern Colombia (Aristizábal 2002) to Argentina (Mazzucconi et al. 2009b). It had been previously recorded from MG based on specimens from Januária (Melo and Nieser 2004), Perdizes, Conceição das Alagoas, Delta (Nieser and Melo 1997), Mariana (Souza et al. 2006), Conselheiro Lafaiete, Carmo do Rio Claro, and Alfenas (Nieser and Melo 1997), and it is herein recorded for the first time from Ouro Preto.

*Halobatopsis delectus* occurs in southeastern Brazil, in the states of MG and Rio de Janeiro (Moreira and Campos 2012). This paper presents the first record from Ouro Preto Municipality. Previously, it had been recorded in MG from Belo Horizonte (Drake and Harris 1941), Nova Lima, Ibirité (Nieser and Melo 1997), Brumadinho (Goulart et al. 2002), Sacramento, São Roque de Minas (Pelli et al. 2006), and the Serra da Moeda mountain range (Nieser and Melo 1997).

*Halobatopsis platensis* is much more widespread than the previous species, ranging from northeastern Brazil (Rodrigues et al. 2012, 2021b; Moreira et al. 2016; Franco et al. 2020, 2021) westward to Peru (Floriano et al. 2017), and southward to Argentina and Uruguay (Berg 1879; Ruffinelli and Pirán 1959). It is herein recorded from Ouro Preto for the first time, which narrows a gap on the southeastern region of the state. Previous records from MG were based on specimens collected in Bocaiúva, Três Marias (Nieser and Melo 1997), Santana do Riacho (Nieser and Melo 1999), Perdizes, Tapira (Nieser and Melo 1997), Belo Horizonte (Drake and Harris 1941), Betim, Santa Bárbara, Nova Lima (Nieser and Melo 1997), São Roque de Minas (Nieser and Melo 1999), Mariana (Souza et al. 2006), Viçosa (Drake and Harris 1938), and São Vicente de Minas (Nieser and Melo 1997).

*Metrobates plaumanni genikos* is a subspecies endemic to Brazil and heretofore recorded only from Nova Lima, MG, when described (Nieser 1993). The present record expands the distribution of the subspecies by about 60 km to the southeast. Like the previous taxon, *Neogerris kontos* is endemic to MG and had only been recorded once in its original description (Nieser 1994). The published record from Mato Grosso state (Fernandes and Wanzeler 2010) is erroneous, since the material has been checked and this species was not present. Here, we expand its distribution by about 215 km to the southeast. Both taxa above are apparently endemic to the southeastern edges of the São Francisco river basin.

*Platyvelia brachialis* is widespread in the Americas, from Arizona (Snow 1905), eastern (Barber 1914) and southern (Hungerford 1929) United States, through Central America (Champion 1898) and the Caribbean Islands (Uhler 1894), to Argentina (Torres et al. 2008). In MG, it had been previously reported from Itacarambi (Melo and Nieser 2004), Três Marias, Perdizes, Conceição das Alagoas, Delta, Nova Lima (Nieser and Melo 1997), Mariana (Souza et al. 2006), and Ouro Branco (Nieser and Melo 1997). The records presented here are the first from Ouro Preto Municipality.

*Rhagovelia macta* is restricted to southeastern Brazil, in the states of MG and Rio de Janeiro (Moreira et al. 2012). It was previously known from only two localities in the former state: Carmo do Rio Claro, southwestern region (Drake and Carvalho 1955), and Carrancas, southern region (Moreira and Barbosa 2012). This work presents the first record from the southeastern region of the state. *Rhagovelia robusta* is distributed in Brazil (Polhemus 1997), Paraguay (Gould 1931), and Argentina (Polhemus 1997). This includes MG, where it was previously recorded from Mariana (Souza et al. 2006), Viçosa, Visconde do Rio Branco (Polhemus 1997), Carmo do Rio Claro (Moreira and Barbosa 2012), Alfenas (Nieser and Melo 1997), Pains (Taylor and Ferreira 2012), and Paraguaçu (Nieser and Melo 1997). The records above are the first from Ouro Preto Municipality.

*Rhagovelia sbolos* occurs only in MG, with previous records from Nova Lima (Nieser and Polhemus 1999) and Mariana (Souza et al. 2006). The several records above are the first from Ouro Preto Municipality, and

show that the species is quite common in the southeastern region of the state. *Rhagovelia triangula* is endemic from the four states of southeastern Brazil (MG, Espírito Santo, Rio de Janeiro, and São Paulo) (Drake 1953; Nieser and Melo 1997; Moreira and Ribeiro 2009; Moreira et al. 2010). The records above are the first from Ouro Preto Municipality. *Rhagovelia trianguloides* also occurs in southeastern Brazil, but not in São Paulo state (Cordeiro and Moreira 2015). In MG, it was previously recorded from Sete Lagoas, Nova Lima (Nieser and Melo 1997), Brumadinho (Vianna and Melo 2003), Itabirito (Nieser and Melo 1997), Araponga (Cordeiro and Moreira 2015), Carrancas, Juiz de Fora (Moreira and Barbosa 2012), and the Serra da Moeda mountain range (Nieser and Melo 1997). This new record helps to fill a gap in the distribution of the species in the southeastern region of the state.

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## Author Contributions

Conceptualization: GLVM. Data curation: FFFM. Formal analysis: OMM, GLVM. Funding acquisition: FFFM, MAAC. Investigation: OMM, GLVM. Methodology: GLVM, MAAC. Project administration: MAAC. Resources: GLVM. Supervision: MAAC, FFFM. Validation: FFFM. Visualization: OMM, GLVM. Writing – original draft: GLVM, OMM. Writing – review and editing: MAAC, FFFM.

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